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# The History of Bond Prices

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IN order to quote bond prices it is necessary that there be an organized bond market. Such a market has existed only within comparatively recent times. The London Stock Exchange originally confined its dealings to British government "stocks." The term "stock" is used in Great Britain in practically the same sense that the term "bond" is used in America. What we call stock they call shares. Later, other stocks were admitted and dealt in, first those of foreign governments and later the securities of railroads and other corporations.

The debt of Great Britain is mostly in the form of consols or consolidated annuities, and dates back to 1752 when existing obligations were consolidated into 3 per cent annuities without maturity. Properly speaking they are not bonds in the American sense. There is no promise of payment of a fixed amount of principal and hence no maturity. Instead, there is the promised payment of an annuity conceived of as interest upon an original principal.

The rate of interest fixed by act of Parliament in 1752 was 3 per cent. In the latter part of the eighteenth century 4 per cent and 5 per cent consols were issued. Later the rate of interest was reduced to  $2\frac{1}{2}$  per cent. These consols were freely traded in on the London Stock Exchange, and for the purposes of this article will be treated as bonds. British consols have often been referred to as the "Primier

Security of the World." Certainly they are the security for which there has been for the longest time an organized market. Indeed, for some time they were the only securities for which an organized market existed at all.

## BRITISH CONSOLS FROM 1752 TO 1813

From 1752 to 1813 the general trend of consols was downward. The wars with France, the American war, ending in disaster and the loss of the Thirteen Colonies, resulted in continued accumulation of debt. The amount of 3 per cents outstanding in 1752 was £8,200,000. Shortly after the American war the total capital sum of the 3 per cents was £107,400,000. During the Napoleonic wars the inflation was naturally tremendous. The prices rose and fell with the changes in the military and political situation.

## TREND IN BRITISH CONSOLS FROM 1810 TO 1848

Chart No. 1 shows the course of British consols from 1810 to 1848 inclusive. This is the period following the Napoleonic wars. The shaded area shows the difference between the high and the low price for the year. From the low point in 1815 the rise was rapid until in 1823 consols sold on a 3.1 per cent basis. The general trend was still upward until the high point was reached in 1843 of 2.9 per cent. The business depression of 1818-20 is clearly shown, as is also a depression

in 1825, but the American panic of 1837 seems to have made no impression on British consols. The period covered by this chart was one of colonization and expansion. The steam engine had, indeed, been known before, but it was during this period that steam was utilized on a large scale to increase the efficiency of human labor. This was the period of railroad building and the beginnings of steam navigation. New areas of fertile country were opened up and settled in America, in Australia and New Zealand. Great Britain became a manufacturing and commercial power drawing on the whole world for raw material and selling back manufactured products. Hence, the growth of British wealth caught up, as it were, with the load of indebtedness, which otherwise would have been too heavy for safety. Since 1845 the general trend of consols has been downward.

#### TREND OF ENGLISH COMMODITY PRICES, 1791 TO 1825

Chart No. 2 shows the course of English commodity prices during and following the Napoleonic wars. It will be noticed that the falling commodity prices beginning in 1814 corresponds rather closely to the rising trend of consols. Prices reached their low point in 1822 and bonds their high in 1823. The connection between the price movements of bonds and commodities will be discussed when the causes of fluctuation in bond values are considered.

#### UNITED STATES GOVERNMENT BONDS AFTER THE CIVIL WAR

United States government bonds came to occupy an important position as investment securities only during

and following the Civil War. Chart No. 3 shows the course of United States bonds during and following the Civil War. It will be noticed that United States bonds have sold on a much lower yield basis than consols. This is accounted for by the privilege of note issue, under the National Bank Act, which went with the American bonds, and for which there is no counterpart in the case of British consols. The depression of 1873 apparently did not affect American bonds, but they did suffer a drop during the period 1876-79.

The effect of the panic of 1893 is clearly in evidence as are also the years of prosperity from 1886 to 1890. The right of note issue, however, takes these bonds out of the strictly investment class and makes any comparison with other bonds unfair and misleading.

#### RAILROAD BONDS

Railroad bonds came into the investment field with the building of the great railroad systems which began about 1830. The New York Stock Exchange was established in 1800, and incorporated in 1816 and constitutes by far the chief market for American bonds and stocks. Up to, and directly following, the panic of 1837 railway bonds, as well as shares, constituted a medium of speculation rather than investment. It was quite usual to issue bonds to the full amount of capital actually required for construction and then to issue stock as a bonus given away with the bonds. Fluctuations in railway bonds under such conditions are rather a barometer of speculation than investment. The case of the Union Pacific is the classical exam-

ple of this type of financing. The land was granted by the government and the construction money raised almost entirely by bonds.

#### INVESTMENT BONDS BEFORE 1860

The bonds which were in demand as investments previous to 1860 were chiefly state, county and municipal obligations, and in the panic of 1837-39 a number of defalcations occurred, which hurt the credit of Americans generally, in Europe. Encouraged by the expansion of industry which had been evident during the first half of the century, many states, particularly in the North, borrowed money to invest in internal improvements, while southern and western states borrowed to engage in banking schemes and commercial enterprises. Mississippi and Florida repudiated, and there was a suspension of interest payments in some other states.

#### BOND PRICES SINCE 1862

Continuous and reliable quotations on investment bonds during these years are not available. Chart No. 4 shows the course of bond prices as measured in dollars and as measured in commodities since 1862. Of course it is impossible to find any bonds running fifty years but by a process of piecing together bonds of like character and yield the result was obtained as shown in the chart. Chart No. 6 was made by taking the chart of bond interest and the trend line, as compiled and published by the Harvard Committee on Economic Research in the *Review of Economic Statistics*, bringing it up to date and plotting across the chart the fluctuations in commodity prices as shown by Bradstreet's Index.

#### CAUSES FOR FLUCTUATION IN BOND PRICES AFTER THE CIVIL WAR

In considering the course of bond prices in and immediately after the Civil War, two factors must be kept in mind. First, United States currency was greatly depreciated—a factor that has not been present since. Second, bonds in that period were much more speculative in character than now, owing to the newness and relative development of the country. Both these factors conspired to place bond prices on an extraordinarily low level. This must be taken into consideration when the chart showing the trend of bond prices at that time is studied. Putting aside the question of depreciated currency, the position of sound bonds in the period 1865-72 was quite analogous to that now prevailing. Commodity prices were extraordinarily high, general post-war inflation prevailed, and the purchasing power of money was at a low ebb. The pendulum had swung to an extreme just opposite to the factor prevailing twenty or twenty-five years before. The best bonds could have been purchased, to yield from 7 to 9 per cent. Many arguments were advanced that, as the war had destroyed so much wealth, we had definitely entered a period of high interest rates. The advance in commodity prices while directly caused by the war was also laid at the door of the gold discoveries of 1849, which had of themselves caused a considerable decline in the value of gold. High prices caused industrial expansion and, with minor interruptions, extravagance continued until the bubble burst in the terrific financial collapse of 1873. Bond prices reached an extreme low level about a year after the close of the

war, but as the return given on investments varies inversely with purchasing power of money no consistent improvement in prices was seen during the inflationary period. After the financial crash of 1873 the entire country entered upon a period of business stagnation and depression. Prices fell rapidly and interest rates were materially lower. Coincident with these developments came a consistent and material improvement in bond prices.

An interesting point here is to note the difference between panic and depression, and to note the action of bonds and speculative securities under such conditions. Reference should be made to the chart (No. 5) covering the period 1872-79. A panic or crisis is caused by fear following realization of unsound conditions. Under the stress of fear everything is sacrificed. Values count for little. A panic or crisis may or may not be followed by a period of depression, depending on the conditions prevailing. A depression is not sudden but long drawn out. In it business is stagnant, and as a result competition brings falling prices and also lack of demand for money. In other words, there results a sharp increase in the purchasing power of the dollar.

The crisis of 1873 was followed by one of the severest and most extended depressions this country has ever experienced. Money was withdrawn from speculative enterprises as quickly as possible, and safe and sound investments were sought. As a result, while speculative securities were declining, on account of falling earning power, solid investment issues were advancing. This advance continued with only minor interruptions until

1897-1900. While the country was in a so-called prosperity era in the year 1880 prices of goods showed little tendency to advance and the depression of 1893-98 found commodity prices and business conditions at the extreme opposite from that existing in 1865-70. The purchasing power of the dollar was very large. Prices of bonds had then advanced to a level where the return in many cases was less than 4 per cent as compared to 7-9 per cent after the Civil War. Much was said and written to prove that the United States was to be the reservoir of capital for the world, and that money was to remain very cheap. The demand for investment securities was tremendous. Railroads, like the Northern Pacific, New York Central, Norfolk & Western, Kansas City Southern, many of them recently reorganized on account of small earning power, were able to issue long time bonds on a  $3\frac{1}{2}$  per cent basis. The New York Central  $3\frac{1}{2}$ 's of 1897 were eagerly sought early in the 1900's at 10 points premium, or on a 3 per cent basis. One railroad, offered the opportunity to sell 100 year bonds on a  $3\frac{1}{2}$  per cent basis, would not do so and issued twenty-five-year bonds instead because, looking back, it was felt that twenty-five years hence they could refinance on a 3 per cent basis. This was the heyday for the corporation and the day of the source of future difficulty for the investor.

With the opening of the twentieth century came the large industrial combinations and the opening of a new era for the United States. For the past twenty years we have seen constantly advancing commodity prices culminating in the rapid advance of the past

three years. Similarly, since the early 1900's the prices of investment securities have shown an almost constant decline culminating in extreme weakness since we entered the European War. Savings bank bonds, the issues that sold on less than a  $3\frac{1}{2}$  per cent basis twenty years ago, now yield nearly  $5\frac{1}{2}$  per cent. The Kansas City Southern First 3's yield over 6 per cent. The post-war inflation and heavy selling for tax purposes brought

prices to their lowest point in December, 1919. The average man sees present conditions only once. Civil War veterans will remember investment opportunities like the present but they have little interest in them. Many of us remember the days of 3 and  $3\frac{1}{2}$  per cent returns. Here we are at the other extreme of the pendulum. The situation calls for restricted spending and expanded investment.

CHART No. 1

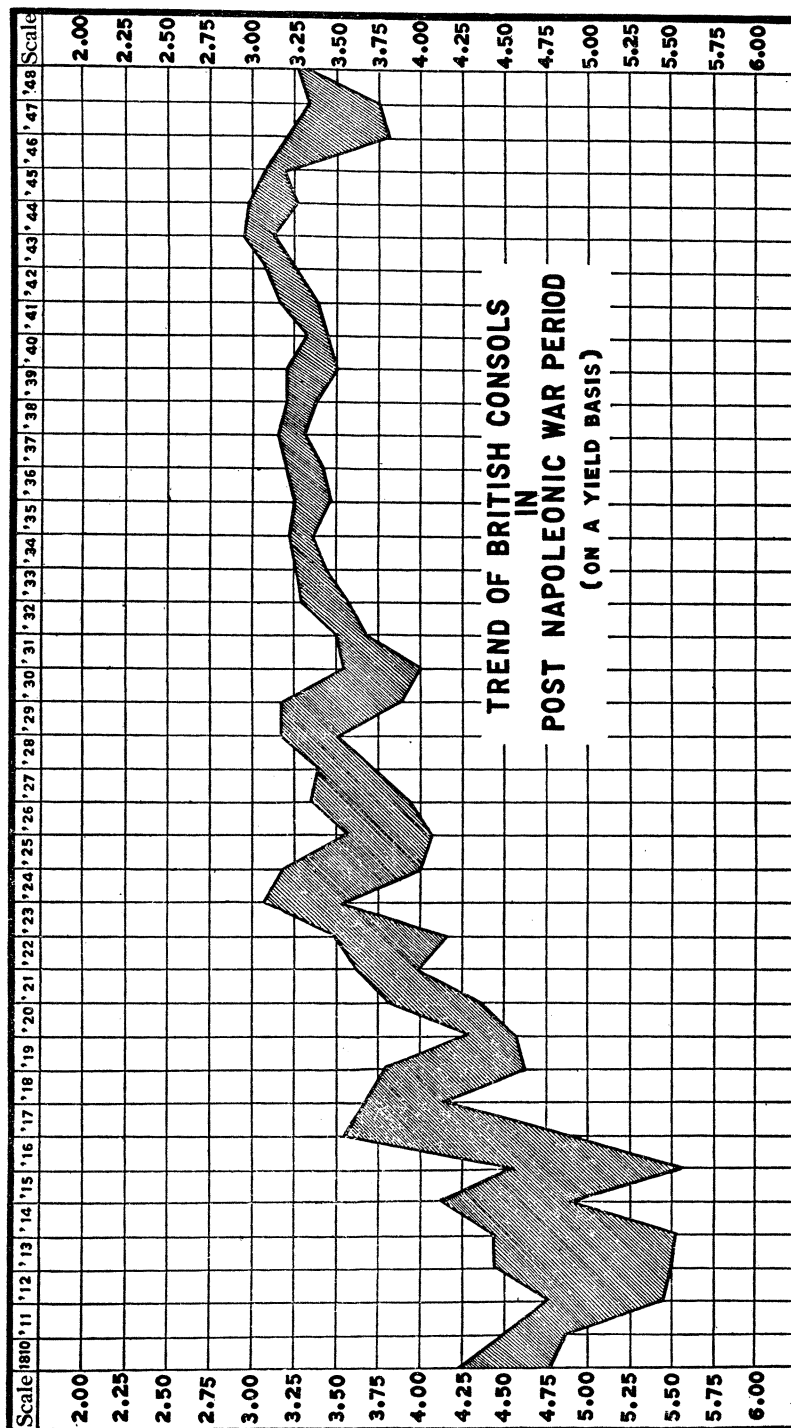


CHART No. 2

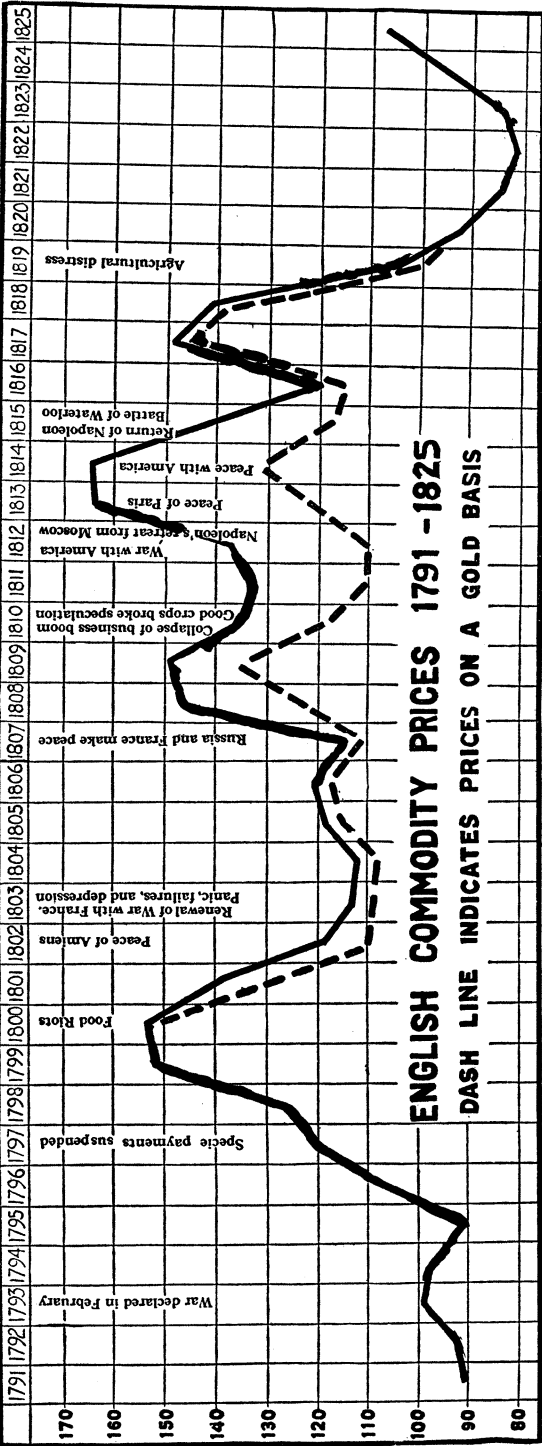


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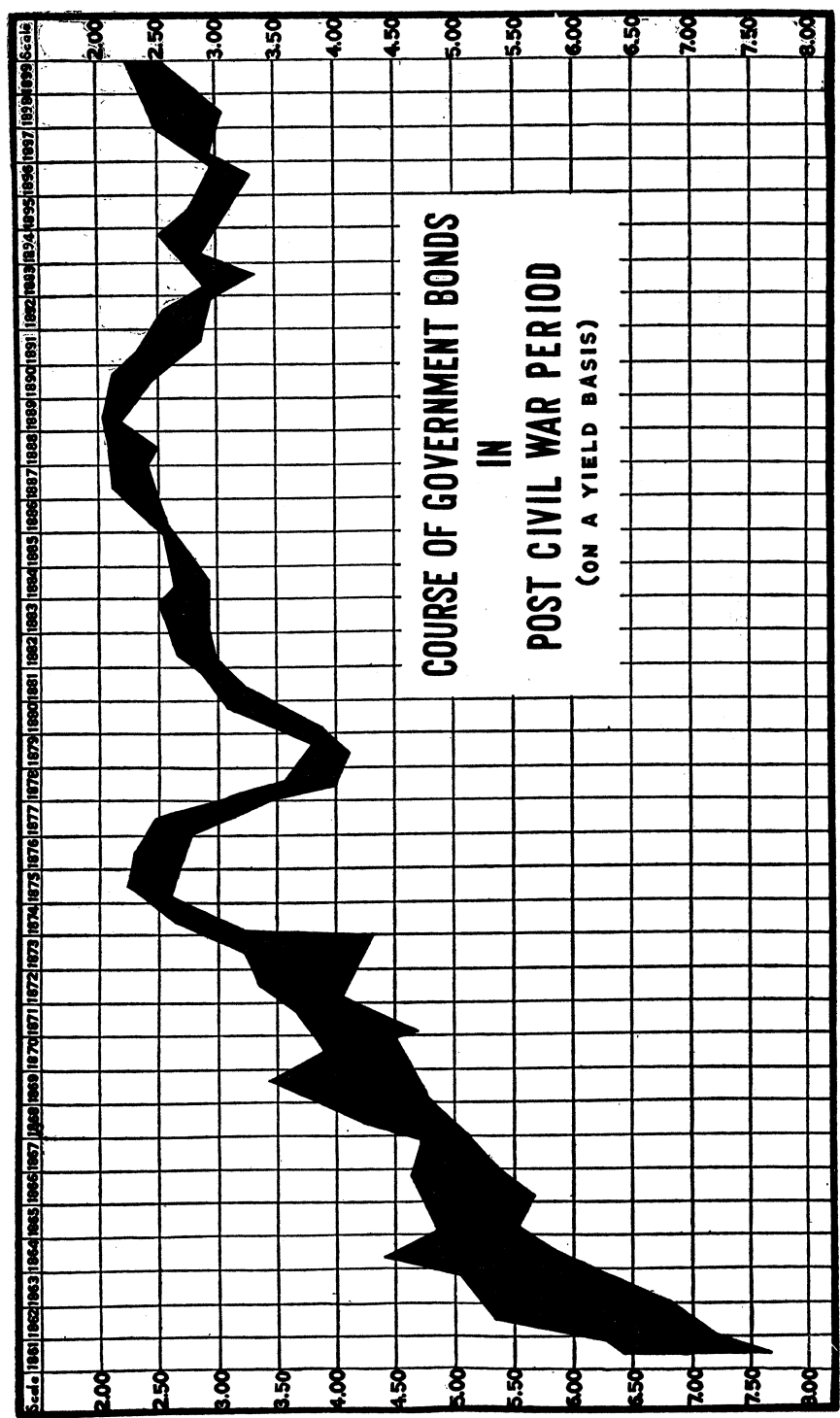
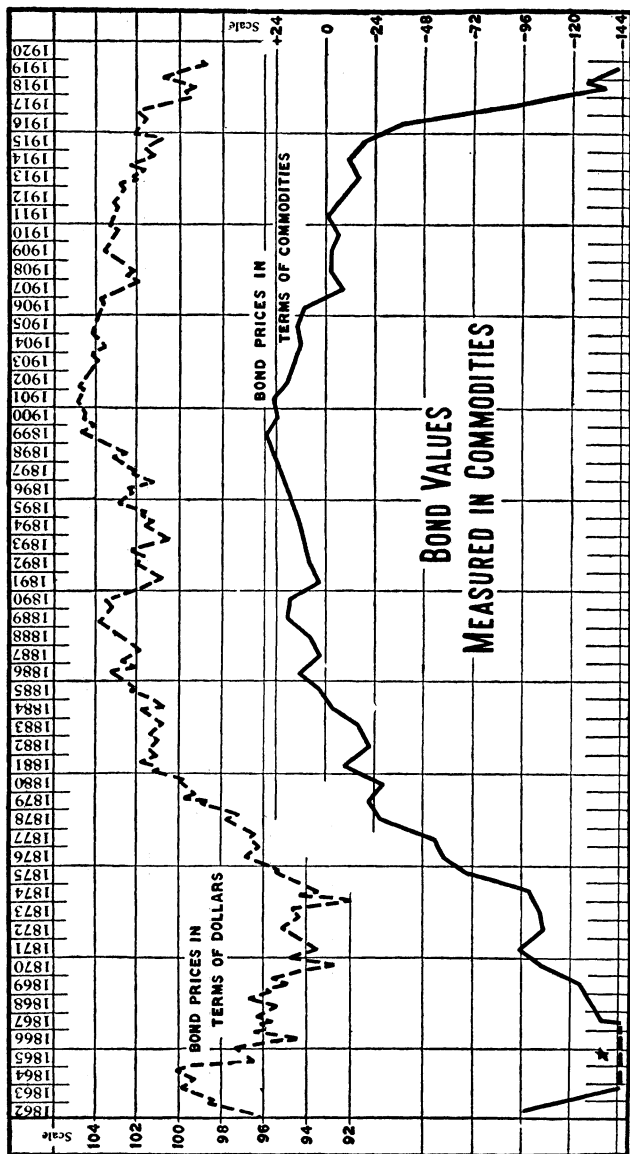
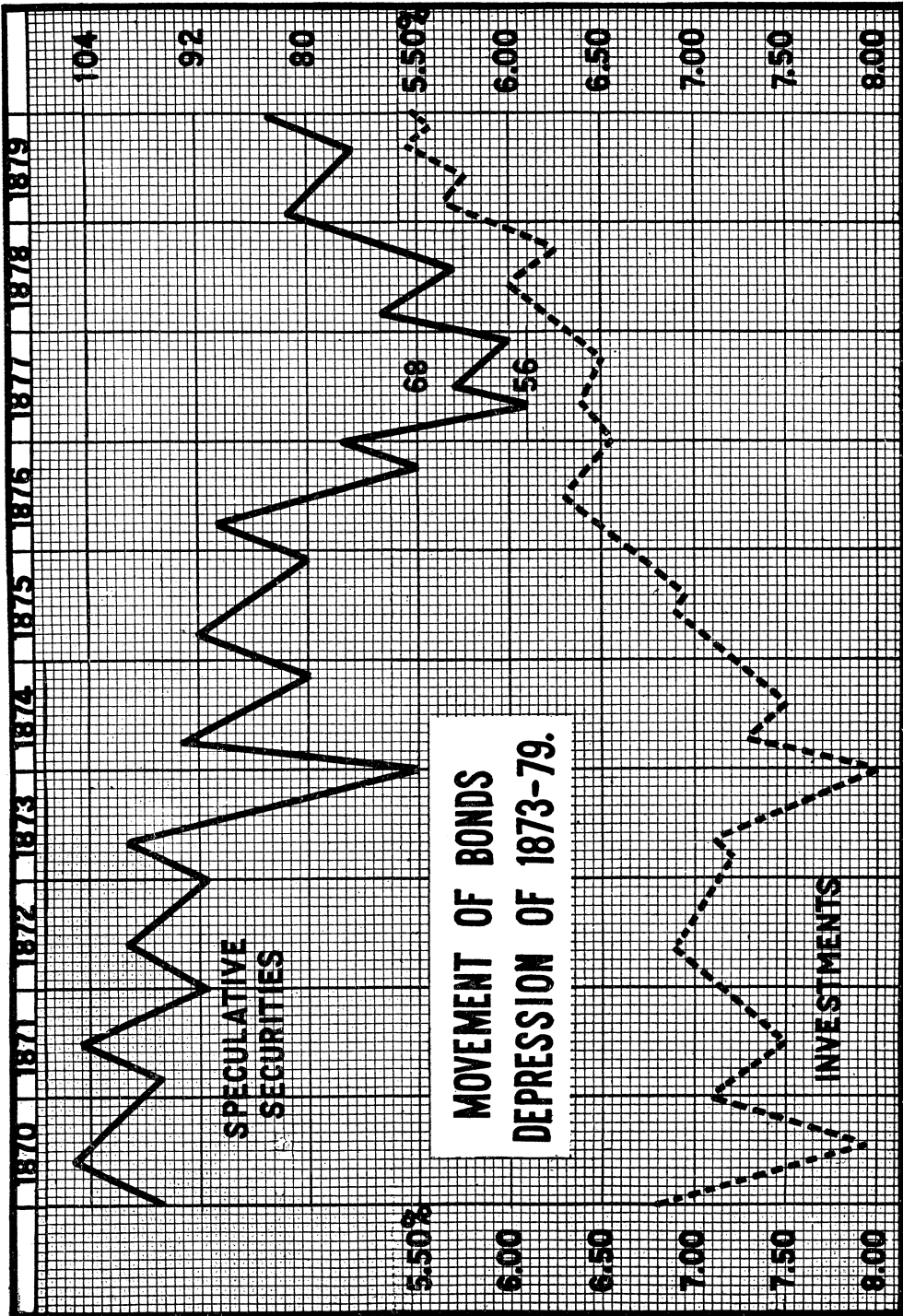


CHART No. 4



★ Prices dropped to —260 in 1866, due principally to depression in the value of paper money. In order to reduce bond prices in dollars to a basis of commodity prices, we assumed zero to represent a point where the average yield of the bonds was 4% and the commodity index 100%. We then determined the variance of both bond yields and commodity prices from this basis. Plotting the sum of these variances for each date we obtained the curve indicated by the dotted line above.

CHART No. 5



The securities used in determining the investment line above were Central Pacific 1st 6's, 1898; Chic. & Milwaukee 1st 7's, 1903; C. & N. W. Cons. 7's, 1915; Lake Shore 1st 7's, 1900; Mich. Cent. Cons. 7's, 1902; Ohio & Mis. Cons. 7's, 1898; Pitts., Ft. Wayne & Ohio 1st 7's, 1912; St. Louis & Iron Mt. 1st 7's, 1892; Union Pac. 1st 6's, 1899; Morris & Essex 1st 7's, 1912.

CHART No. 6

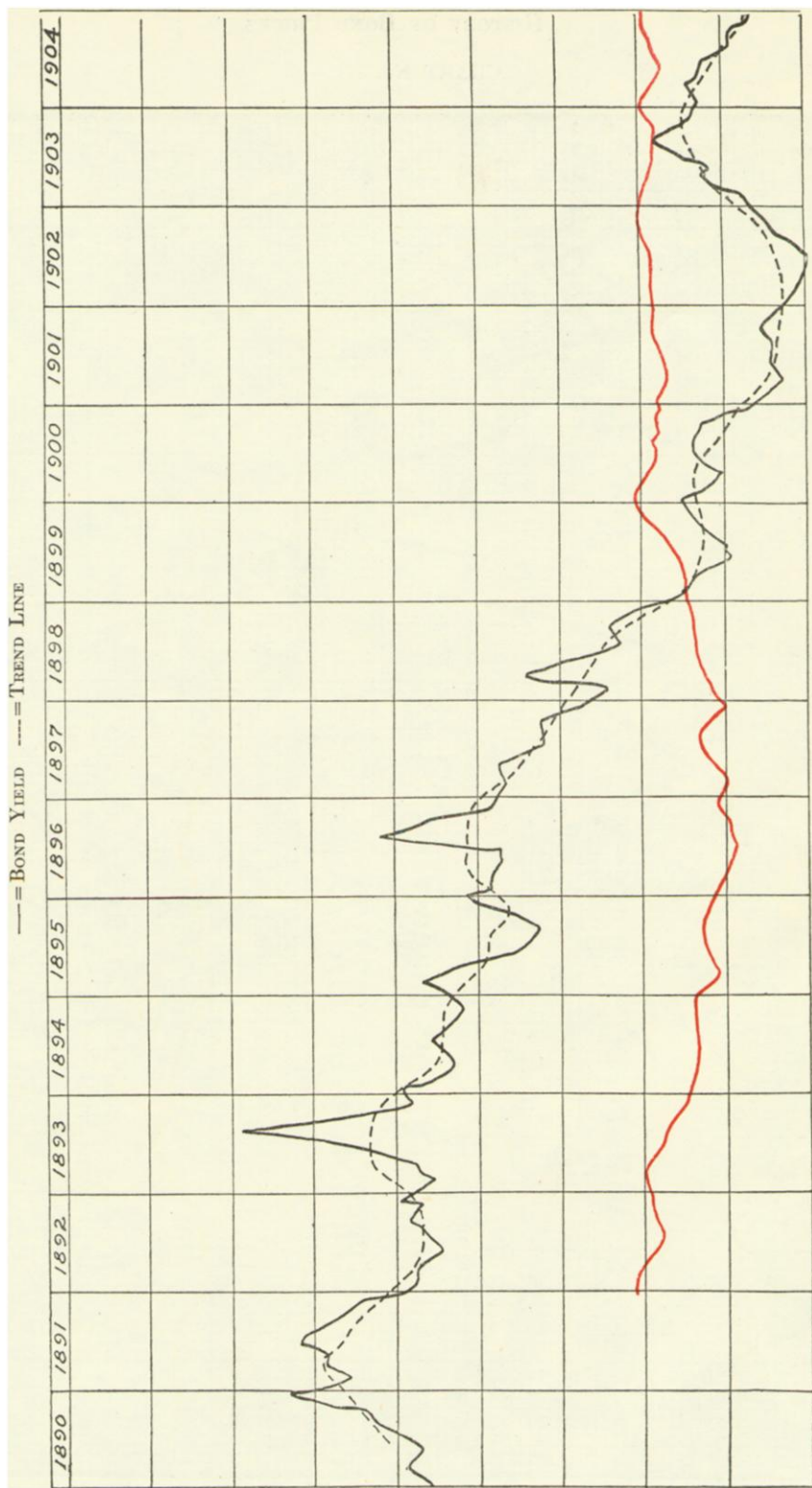


CHART No. 6

BRADSTREET'S INDEX OF ALL COMMODITIES

